

**REMARKS**

Claims 1-10 have been canceled. Claims 11-20 are currently pending. No new matter has been added.

The issues outstanding in this application are as follows:

- Claims 11-20 stand rejected under 35 U.S.C. § 112, ¶ 1, for failing to comply with the enablement requirement.
- Claims 11 and 14 stand rejected under 35 U.S.C. § 102(b) as anticipated by Terraforming Venus.
- Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Terraforming Venus in view of Storaasli and the Mining Engineering Handbook.
- Claims 13, 15, 17 and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Terraforming Venus in view of Hubert.
- Claims 12, 16, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Terraforming Venus in view of Hubert and the Mining Engineering Handbook.
- Claims 11-20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chao “Excitation of the Earth’s Polar motion due to Mass Variations in Major Hydrological Reservoirs.”

Applicant respectfully traverses the outstanding rejections and requests withdrawal thereof in light of the amendments and remarks contained herein.

**I. Enablement**

The Examiner contends that claims 11-20 fail to comply with 35 U.S.C. § 112, ¶ 1, because “the claims contain subject matter which was not described in the specification in such a way as to enable one of skilled in the art to which it pertains . . . to make and/or use the

invention.” This contention is erroneous and, dispositively, has been previously rejected by the Board and may not be reconsidered pursuant to 37 C.F.R. § 1.198.

The Board specifically considered whether the claims complied with § 112, ¶ 1, rejecting the Examiner’s contention that they did not. Opinion, pp. 4-9. Under § 1.198, prosecution may not be reopened or reconsidered on matters “already adjudicated.” To the extent that the Examiner would contend that his argument is different, that contention would be of no moment. To revisit by way of different argument a matter that has been adjudicated is merely to reconsider the matter, which is foreclosed by § 1.198. The Board has held that the claims are enabled. Thus, the § 112, ¶ 1, rejection is procedurally improper and must be withdrawn.

The amendments that narrow the claims are immaterial to the foregoing conclusion under § 1.198, because, as illustrated by the Board’s § 112, ¶ 1, reasoning, the enabling specification is directed specifically to “changes in the axis of rotation.” Opinion, p. 7. The amendment merely clarifies the claim and is not material to enablement.

Even were the Examiner not foreclosed under § 1.198 from reconsidering his § 112, ¶ 1, rejection, the rejection lacks merit and should be withdrawn for all the reasons stated in Applicant’s briefing to date on the issue and the reasons stated in the Board’s Opinion, pp. 4-9. The Examiner has cited no evidence that would overcome the presumption that the recitations in the specification are true. Applicant further notes that the Examiner’s enablement arguments, to the effect that planets are too fluid for the claimed method to work, conflict with the Examiner’s characterization of Chao “Excitation,” which assigns axis orientation affect to the movement of mass on the planet. Office Action, pp. 11-13.

For the reasons stated above, and particularly because the enablement requirement of the Board has ruled that the claims do comply with § 112, ¶ 1, the enablement rejection should be withdrawn.

## **II. Anticipation**

The Examiner rejected claims 11 and 14 as being anticipated by Terraforming Venus. Applicant respectfully traverses, as the examiner fails to make a *prima facie* case of anticipation of the claims as amended. Thus, the rejection should be withdrawn.

Anticipation of a claim is established only where “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed Cir. 1987).

Terraforming Venus discloses theoretical, tangential asteroid collisions to generate a faster rotation period of the planet Venus. Although this reference recognizes that a planet has an axis of rotation and that its speed of rotation can be modified by an angular blow applied by another, tangentially moving mass, it does not teach or suggest the particular method of any of the claims, in particular *changing the orientation* of the axis of rotation by *positioning* mass on a planet.

The claims recite the steps of “measuring the mass of a planet,” “determining the center of mass of the planet,” “characterizing the orientation of the axis of rotation of the planet,” “selecting the desired orientation of the axis,” “calculating a moment of stability required to cause the desired orientation of the axis of rotation,” “determining a position and a mass of a compensating substance sufficient to effect the moment of stability,” and “positioning the mass in the position.” None of the foregoing steps, less the combination of them as claimed, are disclosed by Terraforming Venus.

Terraforming Venus does not, as the Examiner asserts, teach “measuring the mass.” What the Examiner cites in support of the assertion is merely an observation about size similarities between Earth and Venus. Nothing about that observation suggests any method step, nor is the observation linked in the article to the method that is taught by the article. The suggestion to spin Venus from its equator does not, as the Examiner asserts, imply “determining the center of mass.” To the contrary, the suggestion is merely a theoretical suggestion that assumes a perfect sphere and omits consideration of a center of mass. The observation in Terraforming Venus that Venus rotates once per 127 Earth days does not characterize the “orientation of the axis,” as presently claimed, but merely the rate of rotation. The suggestion in Terraforming Venus to increase the rate of rotation of Venus does not disclose “selecting a desired orientation of the axis of rotation,” as presently claimed, but, again, is merely a comment on rate of rotation. Finally, the adding of angular moment, i.e., increasing a rate of rotation, does not disclose “calculating a moment of stability required to cause the desired orientation of the

axis of rotation,” as presently claimed, and does, in fact, omit any consideration of moment of stability.

For the foregoing reasons, the rejection of claims 11 and 14 based on U.S.C. 35 § 102(b) should be withdrawn.

### **III. Obviousness**

The Examiner rejected claims 12, 13, and 15-20 as unpatentable over Terraforming Venus variously in view of Storaasli (U.S. Patent number 5,597,141), Hubert (U.S. Patent number 5,058,834) and the Mining Engineering Handbook, and rejects claims 11-20 as being unpatentable over Chao “Excitation of the Earth’s Polar Motion due to Mass Variations in Major Hydrological Reservoirs” (“Chao ‘Excitation’”). Applicant respectfully traverses.

To establish a *prima facie* case of obviousness, the Examiner must satisfy three basic criteria. First, the Examiner must demonstrate some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Second, the Examiner must show a reasonable expectation of success. Finally, the Examiner must show that the cited prior art teaches or suggests all the claim limitations. See M.P.E.P. § 2143. Without conceding the second criteria, the rejection does not satisfy the first and third criteria.

Contrary to the recitations in the Office Action, none of Terraforming Venus, Storaasli, Hubert, Chao “Excitation,” or the Mining Engineering Handbook disclose, teach or suggest a pro-active method of measuring the mass of the planet by “determining the center of mass of the planet,” “characterizing the orientation of the axis of rotation of the planet,” “selecting the desired orientation of the axis,” “calculating a moment of stability required to cause the desired orientation of the axis of rotation,” “determining a position and a mass of a compensating substance sufficient to effect the moment of stability,” and “positioning the mass in the position” as recited in the claims.

As described *supra*, Terraforming Venus discloses none of the steps of claim 11, less the combination of them as claimed.

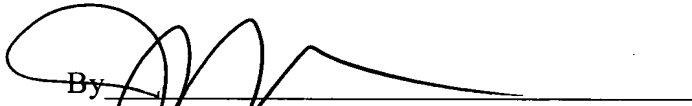
Neither Storaasli nor Hubert are analogous art. Both illustrate machinery in the aerospace field. Nothing in the record suggests that one of ordinary skill in the art of geodynamics would turn to such art to solve, for example, the geodynamic problem identified by Chao in Chao "Excitation." Further, neither Storaasli nor Hubert teach anything about geodynamics, less any of the steps of any of the claims. Like Chao, B.F. Anthropogenic Impact on Global Geodynamics Due to Water Improvement in Major Areas, which was considered by the Board in reversing the Examiner's § 103 rejection that was the subject of the appeal, Chao "Excitation" identifies a problem, but does not teach or suggest any steps of a solution, particularly those steps as presently claimed. In fact, the absence of any proposed solution in either of the Chao references demonstrates that Applicant's claimed solution is, in fact, not obvious.

In view of the above amendments and remarks, Applicant believes that the pending claims in this application are believed to be in condition for allowance.

Applicant believes no fees are due with this response. However, if any fees are due, please charge the deposit account of Fulbright & Jaworski L.L.P., 06-2375 under Order No. 09704227, from which the undersigned is authorized to draw.

Respectfully submitted,

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By \_\_\_\_\_  
John M. Mings  
Registration No.: 35,955  
FULBRIGHT & JAWORSKI L.L.P.  
1301 McKinney, Suite 5100  
Houston, Texas 77010-3095  
(713) 651-5151  
(713) 651-5246 (Fax)  
Attorney for Applicant